## **REVISED VERSION**

## (19) World Intellectual Property Organization

International Bureau

(43) International Publication Date 29 July 2004 (29.07.2004)



**PCT** 

## 20 JUN 2005

(10) International Publication Number WO 2004/063096 A1

(51) International Patent Classification7:

(21) International Application Number:

PCT/US2004/000765

C01G 23/02

- (22) International Filing Date: 9 January 2004 (09.01.2004)
- (25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: 60/439,190

9 January 2003 (09.01.2003)

- (71) Applicant (for all designated States except US): E.I. DU PONT DE NEMOURS AND COMPANY [US/US]; 1007 Market Street, Wilmington, Delaware 19898 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): CRONIN, James, T. [US/US]; 188 Green Giant Road, Townsend, Delaware 19734 (US). ELKINS, Thomas, Shields [US/US]; 488 Gregson Place, Waveryly, Tenneessee 37185 (US). HELBERG, Lisa, Edith [US/US]; 111 Barnacle Court, Middletown, Delaware 19709 (US). MERKLE, James, Elliott, Jr. [US/US]; 20289 Hayes Road, Long Beach, Mississippi 39560 (US). MIRABELLA, Steven, Edward [US/US]; 613 Blue Heron Cove, New Johnsonville, Tenneessee 37134 (US).
- (74) Agent: SINNOTT, Jessica, M.; E.i. Du Pont De Nemours And Company, Legal Patent Records Center, 4417 Lancaster Pike, Wilmington, Delaware 19805 (US).

- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GO, GW, ML, MR, NE, SN, TD, TG).

## Published:

- with international search report
- (88) Date of publication of the revised international search 2 December 2004
- (15) Information about Correction: see PCT Gazette No. 49/2004 of 2 December 2004, Sec-

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: PURIFICATION OF TITANIUM TETRACHLORIDE

(57) Abstract: The present invention is a process for reducing raw material yield losses resulting from the passivation aluminum chloride and vanadium chlorides in the chlorinator discharge in a carbochlorination process for making titanium tetrachloride.